Title (en)
  DEFORMABLE NEURAL RADIANCE FIELDS

Title (de)
  VERFORMBARE NEURONALE STRAHLFELDE

Title (fr)
  CHAMPS DE RAYONNEMENT NEURONAL DÉFORMABLES

Publication
  EP 4244819 A1 20230920 (EN)

Application
  EP 21704691 A 20210114

Priority
  • US 202063198841 P 20201116
  • US 2021070032 W 20210114

Abstract (en)
  [origin: WO2022104299A1] Techniques of image synthesis using a neural radiance field (NeRF) includes generating a deformation model of movement experienced by a subject in a non-rigidly deforming scene. For example, when an image synthesis system uses NeRFs, the system takes as input multiple poses of subjects for training data. In contrast to conventional NeRFs, the technical solution first expresses the positions of the subjects from various perspectives in an observation frame. The technical solution then involves deriving a deformation model, i.e., a mapping between the observation frame and a canonical frame in which the subject's movements are taken into account. This mapping is accomplished using latent deformation codes for each pose that are determined using a multilayer perceptron (MLP). A NeRF is then derived from positions and casted ray directions in the canonical frame using another MLP. New poses for the subject may then be derived using the NeRF.

IPC 8 full level
  G06T 15/20 (2011.01)

CPC (source: EP KR US)
  G06T 15/04 (2013.01 - US); **G06T 15/20** (2013.01 - US); **G06T 15/205** (2013.01 - EP KR); **G06T 15/506** (2013.01 - EP KR); **G06T 15/55** (2013.01 - US); G06T 2207/20084 (2013.01 - KR)

Designated contracting state (EPC)
  AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
  BA ME

Designated validation state (EPC)
  KH MA MD TN

DOCDB simple family (publication)
  WO 2022104299 A1 20220519; CN 116324895 A 20230623; EP 4244819 A1 20230920; JP 2023549821 A 20231129; KR 20230062864 A 20230509; US 2024005590 A1 20240104

DOCDB simple family (application)
  US 2021070032 W 20210114; CN 202180069036 A 20210114; EP 21704691 A 20210114; JP 2023528508 A 20210114; KR 20237011706 A 20210114; US 202118251995 A 20210114